REMARKS

Applicants have studied the Advisory Office Action dated August 5, 2004 and have made amendments to the claims. It is submitted that the application, as amended, is in condition for allowance. By virtue of this amendment, claims 1-4, 6,8, 14, and 17-23 are pending. Claims 1, 6, 14, 17, 18, 19, 20, 21, and 22 are amended. Claims 5, 7, 9-13, 15-16, and 24 are cancelled. Reconsideration and allowance of the pending claims in view of the above amendments and the following remarks is respectfully requested.

In the Advisory Action dated August 8, 2004, the Examiner stated that the Amendment to the claims filed on July 15, 2004 did not comply with the requirements of 37 CFR 1.121(c). Applicants have made the proper changes to these claims fully complying with the requirements of 37 CFR 1.121 ©. No new matter was added.

Applicants also wish to reiterate their Response to the Examiner's previous Final Office Action dated June 8, 2004 for the Examiner's ease in following Applicants' Response and Arguments. Applicants' Response dated July 15, 2004 is set forth below in its entirety. No new matter has been added.

In the Office Action, the Examiner:

(Page 2, para. 1) acknowledged receipt of acceptable drawings;

(Page 2, para. 3) rejected claims 1-3, 5-8, 12, 14, and 17-22 under 35 U.S.C. § 112, first paragraph as containing subject matter not properly described in the specification;

(Page 3, para 2) rejected claims 1-3, 5, and 7 under 35 U.S.C. § 103(a) as being unpatentable over Inou (U.S. Patent No. 5,793,461);

(Page 5, para 2) rejected claims 12, 17, and 21 under 35 U.S.C. § 103(a) as being unpatentable over Inou (U.S. Patent No. 5,793,461) in view of Ishihara (U.S. Patent No. 5,263,888);

(Page 6) indicated that claims 6, 8, 14, 18, 20, and 22 would be allowable if rewritten to overcome the rejections(s) under 35 U.S.C. § 112; and

(Page 7) allowed claims 4 and 23.

(Pages 6 and 7) Allowable Subject Matter

The Applicants also wish to thank Examiner Landau for indicating the allowable subject matter of claims 4 and 23 and claims 6, 8, 14, 18, 20, and 22. Although the Applicants respectfully disagree with the Examiner's rejection of independent claim 1, the Applicants have elected to amend claims 6, 14, 18, 20, and 22 solely for the purpose of expediting the patent application process in a manner consistent with PTO's Patent Business Goals (PBG), 65 Fed. Reg. 54603 (September 8, 2000). Specifically claims 6, 14, 18 and 20 have been rewritten in independent form including all the limitations of the base claim and any intervening claims. The Applicants submit that claims 6, 14, 18, 20 and 22 are now in a condition of allowance, which allowance is respectfully requested. Further claims 8, 17, 19, 21, and 22, depend from newly amended independent claims 6 and 14. Since dependent claims contain all the limitations of the independent claims, claims 8, 17, 19, 21 and 22 should be allowable as well, which allowance is respectfully requested.

(Page 2, para. 1) Acknowledged Receipt of Drawings

Applicants thank Examiner Landau for acknowledgment of receipt of acceptable drawings.

(Page 2, para. 3) Rejection under 35 U.S.C. § 112

As noted above, the Examiner rejected claims 1-3, 5-8, 12, 14, and 17-22 under 35 U.S.C. § 112, first paragraph, for containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Specifically, the Examiner stated that the limitations of claim 1, "'with a pulse duration greater than 21 ns' and 'with a pulse duration less than 19 ns', and the limitation of claim 5, 'with a pulse duration less than 1 ns'", is not supported in the specification.

It is initially noted that, by virtue of this Amendment, claim 1 has been amended to remove the limitation "with a pulse duration less than 19 ns", and claim 5 has been cancelled. It is therefore assumed that the Examiner's rejection will apply only to the

limitation "with a pulse duration greater than 21 ns".

As noted by the Examiner, the specification as originally filed stated that the pulsed laser can have pulse widths that can vary from "femto-second to continuous wave." Support for this range is found in the specification of the present invention as originally filed at the bottom of page 5 continuing on the top of page 6. As is known by those having ordinary skill in the art, the prefix "femto" indicates one quadrillionth (10^{-15}) of a unit and "continuous", as defined by Merriam-Webster's 2004 Dictionary, means "marked by uninterrupted extension in space, time, or sequence." Therefore, as defined by the specification of the instant application as filed, the pulse width of the present invention can vary from one quadrillionth of a second to infinity.

MPEP § 2106.05 recites that each claim limitation must be expressly, implicitly, or inherently supported in the originally filed disclosure. "With respect to changing numerical range limitations, the analysis must take into account which ranges one skilled in the art would consider inherently supported by the discussion in the original disclosure." MPEP § 2106.05 (III).

Claim 1, as previously amended, recites "with a pulse duration greater than 21 ns". This limitation defines a range from 21 ns (one billionth (10^{-9})) to a continuous, or non-interrupted, pulse width. Because the range **one billionth to continuous (10^{-9} - 0) is a subset of the range one quadrillionth to continuous (10^{-15} – 0)**, which is expressly defined in the specification of the instant application, it is respectfully submitted that Applicants' previous amendment narrowed the scope of the claim limitations, did not add new material, and was fully supported by the specification as originally filed.

It is accordingly believed that the specification and claims 2, 3, and 6-8, which ultimately depend from independent claim 1, meet the requirements of 35 U.S.C. § 112, first paragraph.

(Page 3, para 2) Rejection Under 35 U.S.C. § 103(a)

As noted above, the Examiner rejected claims 1-3, 5, and 7 under 35 U.S.C. § 103(a)

as being unpatentable over Inou (U.S. Patent No. 5,793,461). Independent claim 1 has been amended to distinguish and to more clearly define the present invention over Inou. Support for the changes is found on page 5, line 27 through page 6, line 6 of the specification of the instant application. No new matter has been added.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful. Amended independent claim 1 recites, *inter alia*:

> 1... irradiating the glue sealant with laser beam radiation to polymerize the sealant by directing light onto one of the first or the second substrate that is at least partially transparent to the laser beam, the laser beam consisting of **one of a continuous wave laser and a pulsed laser with a pulse duration greater than 21 ns**. (Emphasis added).

Inou teaches away from the use of a long pulse width laser. The Inou reference discloses a method of laminating two substrates 4 & 5 by utilizing two laser beams 12 & 14 to photopolymerize a seal 8. In Inou, the speed of photopolymerization is an essential element of the method. In fact, the first laser, a carbon dioxide gas laser 13, is utilized for the purpose of accelerating the photopolymerization process. As explained in col. 6, lines 34 – 40 of Inou, the dual laser method is used so that the carbon dioxide laser 13, which produces a carbon dioxide laser beam 14, heats the seal 8 and accelerates the time necessary for the excimer laser 11 to irradiate the seal 8. Inou expressly sets an upper pulse-width limit of 20 ns, which the invention of Inou is not to exceed. Inou discloses, in col. 6, lines 41-43, that the excimer laser beam 12 emits a pulse-wise beam of light 16 with a periodic time **up to 20 ns** to irradiate a myriad of light quantum. Therefore, the laser of the purpose and intent of the Inou invention is to not exceed 20 ns.

Clearly, Inou does not show a "laser beam consisting of one of a continuous wave laser and a pulsed laser with a pulse duration greater than 21 ns", as recited in amended claim 1 of the instant application.

It is accordingly believed to be clear that Inou, neither shows nor suggests the features of claim 1. Claims 2-4 depend from independent claim 1. Since dependent claims

contain all the limitations of the independent claims, claims 2-4 distinguish over Inou as well, and the Examiner's rejection should be withdrawn.

CONCLUSION

The remaining cited references have been reviewed and are not believed to affect the patentability of the claims as amended.

In this Response, Applicants have amended certain claims. In light of the Office Action, Applicants believe these amendments serve a useful clarification purpose, and are desirable for clarification purposes, independent of patentability. Accordingly, Applicants respectfully submit that the claim amendments do not limit the range of any permissible equivalents.

Applicants acknowledge the continuing duty of candor and good faith to disclosure of information known to be material to the examination of this application. In accordance with 37 CFR §1.56, all such information is dutifully made of record. The foreseeable equivalents of any territory surrendered by amendment are limited to the territory taught by the information of record. No other territory afforded by the doctrine of equivalents is knowingly surrendered and everything else is unforeseeable at the time of this amendment by the Applicants and their attorneys.

Applicants respectfully submit that all of the grounds for rejection stated in the Examiner's Advisory Office Action have been overcome, and that all claims in the application are allowable. No new matter has been added. It is believed that the application is now in condition for allowance, which allowance is respectfully requested.

PLEASE CALL the undersigned if that would expedite the prosecution of this application.

Respectfully submitted,

Date: September 1, 2004 By: _____

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